UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/509,571	06/14/2000	MITSUHIKO FUKABORI	425-763PCT	7631

2292 7590 09/25/2003

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER
LEUNG, JENNIFER A

ART UNIT	PAPER NUMBER
1764	

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/509,571	FUKABORI ET AL.	
	Examin r	Art Unit	
	Jennifer A. Leung	1764	

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 July 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *1.5* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. Applicant's amendment submitted on July 15, 2003 has been received and carefully considered. The changes made to the specification are acceptable. Claims 1-4 remain active.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on March 29, 2000 has been considered by the examiner, and a signed and initialed copy of the IDS has been attached to the present Office Action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Allerton, III et al. (U.S. 5,294,244).

Regarding claim 1, Allerton, III et al. (FIG. 3; column 3, lines 33-64) discloses an apparatus comprising a processing furnace **108** wherein a metal partition wall (i.e., steel plate deflector **130**) is provided so as to cover an inner surface **146** of the wall **122** of the processing furnace **108**, wherein the apparatus may be configured to process a gas generating chemical-containing inflator **10** having a metal case (i.e., aluminum, stainless steel). Deflector **130** inherently prevents striking and damage to the inner surface **146** of the wall **122**, by virtue of its placement (see Figure) and solid construction (i.e., steel).

Regarding claim 2, Allerton, III et al. (FIG. 3; column 4, lines 40-64) discloses an incinerator (heating unit **118**) provided with a burner (i.e., natural gas burner) and an air supplier or/and an exhaust gas circulator (i.e., compressed air) connected with the processing furnace **108**.

Instant claims 1 and 2 structurally read on the apparatus of Allerton, III et al.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakasato et al. (EP 0 677 336) in view of Allerton, III et al. (U.S. 5,294,244).

Regarding claim 1, Nakasato et al. (page 3, lines 32-51) disclose an inflator processing apparatus comprising a processing furnace (i.e. heating furnace; page 3, lines 36-37), wherein a partition wall (i.e. baffles; page 3, lines 49-51) is provided between an inner surface of a wall of a processing furnace and the inflator. The baffles inherently cover and protect a portion of the inner surface of the wall, by virtue of the baffles being a solid barrier located between the inflator and the inner wall surface. Although Nakasato et al. are silent as to the partition wall being of metal, it would have been an obvious design choice for one of ordinary skill in the art at the time the invention was made to select an appropriate material, such as metal, for the partition wall material, since the use of metal for furnace partition walls is known in the art, as evidenced by Allerton, III et al. (i.e., steel plate deflector **130**; column 3, lines 33-64).

Regarding claim 2, Nakasato et al. further disclose heating may be carried out in a furnace wherein the inflator is contacted with hot gases or a flame (page 8, claim 6). Although Nakasato et al. do not specifically cite an incinerator provided with a burner and an air supplier

or/and an exhaust gas circulator, it would have been obvious for one of ordinary skill in the art at the time the invention was made to provide an incinerator comprising a burner and an air supplier or/and an exhaust gas circulator to the modified apparatus of Nakasato et al., since such apparatuses are inherently capable of producing hot gases or a flame, and they are conventionally known in the art as furnace heating means. As evidence of conventionality, Allerton, III et al. teach a furnace **108** for processing an inflator **10**, wherein the furnace is heated by an incinerator (i.e. heating unit **118**) that operates on a prescribed mixture of natural gas and compressed air, thereby functioning as a natural gas burner (column 4, lines 40-59).

Regarding claim 3, Nakasato et al. further disclose a means for feeding the inflators to the furnace continuously and individually into the processing furnace, thereby activating the inflators one at a time in the sequence in which they are fed, to prevent massive generation of gases and to allow for greater control over furnace operation, i.e. temperature, pressure and residence times (page 3, lines 36-44). Thus, the apparatus inherently comprises a module for charging the apparatus with inflators and is inherently capable judging the timing of charge of the inflators.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakasato et al. (EP 0 677 336) in view of Mullarkey (U.S. 3,793,101).

Nakasato et al. disclose a method of processing an inflator comprising the step of heating the inflator to a temperature not lower than an operating temperature of the chemical (i.e., a temperature of about 150 °C - 450 °C to ignite the ingredients of the inflator to cause complete combustion; page 3, lines 32-35). Nakasato et al. further disclose timing the charge of inflators into an inflator processing apparatus such that the inflators are continuously and individually fed and activated one at a time in the sequence in which they are fed, in order to prevent massive

generation of gas (page 3, lines 40-43). Nakasato et al. further disclose such continuous mode of operation allows control over furnace operation, such as pressure and residence time (page 3, lines 43-44). Although Nakasato et al. do not expressly disclose judging the timing of charge of inflators by comparing the number of charged inflators with the number of peak points of furnace pressure, it would have been obvious for one of ordinary skill in the art at the time the invention was made to provide the step of judging in the method of Nakasato et al., since the step is inherent to the method of Nakasato, and furthermore, the method of controlling the charge of a reactant into a reaction zone based on pressure measurement is conventionally known in the art, as evidenced by Mullarkey (column 5, lines 23-65; claims 1-13), which teaches a method for processing unused ammunition by heating, wherein the charge of ammunition via conveyer **2** is controlled (i.e. started or stopped) by comparing the quantity of charged ammunition to the peak points of furnace pressure (i.e. acoustic shock sensed by explosion detector **66**). The ammunition, like an inflator, emits combustion gas upon deactivation via heating to an ignition or operating temperature.

Response to Arguments

6. Applicant's arguments filed on July 15, 2003 have been fully considered but they are not persuasive.

Regarding the rejection of claims 1 and 2 under 35 U.S.C. 102(b) as being anticipated by Allerton, III et al., applicant asserts,

> "The concurrent amendment of claim 1 differentiates the invention of claims 1 and 2 herein from the disclosure of Allerton." (page 5, second to last paragraph).

However, the examiner respectfully disagrees and contends that applicant's arguments are not

persuasive or commensurate with the language of the claims, because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Additionally, they do not show how the amendments avoid such references or objections. As commented above and restated herein, the language of the claims is not patentably distinguishable from the apparatus as disclosed by Allerton, III et al., which comprises, substantially, the recited structural elements of a processing furnace **108** and a metal partition wall **130** provided on an inner surface **146** of a wall of the processing furnace **122** (see FIG. 3). Thus, it is unclear as to how the apparatus of Allerton, III et al. differs from applicant's claimed apparatus.

Regarding the rejection of claims 1-3 under 35 U.S.C. 103(a) as being unpatentable over Nakasato et al. in view of Allerton, III et al., applicant asserts,

> "The Nakasato inflators are fixed in some manner in the furnace (page 3, lines 45-48). In contrast to the prior art, the present invention does not fix the inflators in the furnace, and the present invention avoid damage to the inner surface of the processing furnace." (page 5, last paragraph to page 6, first paragraph).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., structural features which prevent the inflators from being fixed in the furnace) are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Additionally, it is unclear as to how the feature as argued by applicant differs from the features disclosed in the apparatus of Nakasato et al. For instance, Nakasato et al. disclose, "... inflators are *continuously* and individually fed to the furnace and are activated one at a time in

the sequence in which they are fed to the furnace. Such a *continuous system* is preferred because it will not cause the massive generation of gases associated with the batch mode of actuation, and is thus a safer procedure." (emphasis added; page 3, lines 40-43). Such a continuous mode of operation would thus imply that the inflators are not fixed, as they are moved through the furnace at a given speed, as argued by applicant.

Regarding the rejection of claim 4 under 35 U.S.C. 103(a) as being unpatentable over Nakasato et al. in view of Allerton, III et al., as applied to claim 1, and further in view of Mullarkey, applicant asserts,

> "Neither Nakasato nor Mullarkey teach the metal partition that is now expressly recited in claim 4." (page 6, second paragraph).

However, the examiner respectfully disagrees and contends that applicant's arguments are not persuasive or commensurate with the language of the claims because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Additionally, they do not show how the amendments avoid such references or objections. As commented above and restated herein, the language of the claims is not patentably distinguishable from the modified method of Nakasato, since the baffles of Nakasato, which are further modified by Allerton, III et al. to comprise metal, meet the structural limitations of the claim, and furthermore, the baffles inherently cover and protect a portion of the inner surface of the wall, by virtue of the baffles being a solid barrier located between the inflator and the inner wall surface. Thus, it is unclear as to how the modified method of Nakasato et al. differs from applicant's claimed method.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

* * *

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is 703-305-4951. The examiner can normally be reached on 8:30 am - 5:30 pm M-F, every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on 703-308-6824. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Jennifer A. Leung
September 22, 2003 JAL

Hien Tran

HIEN TRAN
PRIMARY EXAMINER